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S O I L   C O N S E R V A T I O N   D I G E S T

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SOIL CONSERVATION SERVICE

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## SOME EROSION CONTROL PROBLEMS

### CALIFORNIA

The State of California has many erosion problems. These vary not only between widely scattered projects but also within each project area.

#### Rainfall Amounts and Distribution

California has areas on the Northern coast and along the Sierra foothills where the annual rainfall is more than 50 inches, while along the Southern coast it seldom exceeds 10 inches and in the reclaimed desert areas two inches of rainfall is common.

The distribution of this rainfall also is an important factor. In normal years the early rains fall in November and continue at intervals until April. This season however practically no rain fell in the southern counties until the first of February. This prevented the growing of cover crops which require moisture for an early start. When the heavy rains came in February fields were clean cultivated and conditions were ideal for soil washing on sloping lands. The holding of rainfall and preventing of washing is important.

#### Variation in Soils

The variation in soils and subsoils is very marked even within project areas. Lighter sandy soils that are clean cultivated at the time rains occur wash very readily if on slopes. Heavy clay soils also are subject to washing. At the upper ends of these slopes, in many sections soil washing has continued until there is very little top soil remaining. In fact the lighter colored subsoils may be readily seen. As a result these upper slopes are no longer planted to crops. They have little water absorptive power and become a catch basin from which rainfall runs off very rapidly, forming rills at first and then gullies, concentrating the flow of water on good soils lower down the slopes. As this flow increases and enters main run-off channels, the gullies deepen and cut back and cave in, ever-widening and destroying many acres of the best land.

#### Surplus run-off Must be Removed

In other sections of the State the annual rainfall varies within a six mile radius from 20 inches to 50 inches. This is due to local topography. With rains of great intensity and a maximum absorption of run-off, there is still a surplus of water that must be removed from the land and carried to the lower drainage channels without permitting silt to be removed and gullies to be deepened and widened. This condition occurs on some of the most desirable orchard land.

Foothill orchards  
Need Attention

Early fruit is profitable and experience has shown that rolling foothill lands with proper air drainage produce the earliest and highest quality fruit. Washing of these rolling lands has made it more difficult to obtain quality fruit as the soil nutrients have been depleted. To prevent a continuance of this wasting of the top soil is recognized as a most important problem.

EAGLE VALLEY, NEVADA

Rainfall

Rainfall in this area varies between 10 and 15 inches annually and occurs in two or three storms of torrential character.

Fertile Valley  
Land Gullied

Soil of the four valley floors is of alluvial origin, very permeable and highly calcareous. The principal erosion damage which is occurring is due to the degrading of the bed of Meadow Valley Wash. This has started at the lower end of each valley in the gorge section and is proceeding up stream through the valleys. The amount of this cutting is from ten to forty feet and in some cases has proceeded half-way through the valley. Where gully-ing has occurred, valuable meadow grass has disappeared and its place has been taken by the non-palatable rabbit bush. From the degraded bed of the stream some side fingers are also cutting back into the floor of the valleys.

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Tours  
Corralitos Area

Farm Advisor Henry Washburn has been talking cover crops in the Corralitos area for eighteen years. He has recently been conducting tours over the Corralitos project and his announcement of these tours contains the following statements:

Cover Crops  
Fertilizer Tests

"Purpose: To see the finest experimental plots and orchard demonstrations on cover crops, fertilizers, and reforestation that we have ever had available in Santa Cruz County."

"We will also see other erosion control measures such as contour ditches, main run-off ditches, dams, etc."

Free Transportation

"FROM APTOS AND RETURN, TRANSPORTATION IS FREE. The Soil Conservation Service will furnish carry-alls or station wagons and a specialist to drive each car to explain the various demonstrations and especially what is to be seen between stops on the way."

Demonstration Tour  
Aliso Creek Area

A tour of the Aliso Creek demonstration area was made on March 6 by a group of fifteen farmers under the auspices of Farm Advisor H. E. Wahlberg of Orange County. In addition to seeing the field work a stop was made at the El Toro Soil Conservation Camp where enrollees are doing soil erosion control work on the project. The purpose of these tours is to give farmers a first-hand acquaintance with erosion control practices so they may adapt practices to their own problems.

Soil Conservation  
Education  
CCC Camps

Regular bi-monthly lectures on conservation of the soil are being given by one of the SCS staff members to enrollees in CCC-Soil Conservation camps. Response has been favorable to this type of instruction. Although attendance is voluntary very few of the enrollees miss class. Educational advisors in the camps have co-operated splendidly in arranging their teaching schedules so as to fit in the Soil Conservation classes. The talks are illustrated with lantern slides showing the various phases of soil washing and its control.

Conservation Week

Soil Conservation Service staff members co-operated in the observance of California Conservation Week, March 7-14. Lectures were given at a number of schools. Mimeographed talks were sent out to school teachers to be used in the Conservation Week program, also a bibliography on soil conservation. For the general public, window displays were placed in store windows in the following cities: Watsonville, Santa Maria, Santa Barbara, Ventura, Los Angeles, and Santa Ana.

San Bernardino  
Orange Show

The Soil Conservation Service exhibit was displayed at the San Bernardino Orange Show, February 20 to March 1, inclusive. This annual event had a very large attendance. Two thousand copies of a pamphlet entitled "Lost! Tons of Fertile California Soil By Erosion," were distributed. The exhibit was awarded a special prize gold cup and blue ribbon. Colored transparencies, enlarged from photographs taken on various projects in the California-Nevada region were used in connection with the exhibit.

Corralitos Area  
(Santa Cruz County)

54,103 trees were planted during February, 2322 linear feet of terrace outlet ditches constructed, 7 acres of cover crop planted, 1,228 linear feet of concrete pipe molded. To date over 25,000 acres have been covered by the detailed erosion survey.

Placerville Area  
(El Dorado County)

5,224 trees were planted in February. Two permanent terrace outlets and four permanent dams constructed. Over 500 acres have been covered by the detailed erosion survey to date. 489 acres rodent-controlled, to date.



English Hills Area  
(Solano County) 3,190 trees were planted in February. 700 linear feet of concrete pipe were molded. To date over 1,400 acres of detailed erosion survey completed. Four permanent dams were constructed in February, 177 to date.

Sebastopol Area  
(Sonoma County) Additional co-operative agreements were signed in February. Over 1,300 acres have been covered to date by the detailed erosion survey. Rodent control crews covered 112 acres in February.

Las Posas Area  
(Ventura County) As finally established the Las Posas area covers 39,930 acres. It includes part of the Rancho Santa Clara de Norte, which is north of Highway 101 from Camarillo to the intersection of Highway 101 and Central Avenue.

During February, four permanent terrace outlet structures, 80 linear feet of terrace outlet channels, and four permanent dams were constructed. During this same period 118 man-days nursery work and plant collection were accomplished, over 1,900 acres rodent-controlled, and 8 permanent dams were repaired.

Soil Conservation  
Nursery  
(Santa Paula) 490,000 trees were shipped from the Soil Conservation nursery at Santa Paula during February to Las Posas, Arroyo Grande, Lompoc, Vista, Palos Verdes, and Aliso Creek projects.

Lompoc  
(Santa Barbara  
County) The following work was done: 3,200 yards of gully bank-sloping, one permanent dam, one terrace outlet, over a mile of diversion ditch, one-half mile of terracing, and Planting of 530 acres to trees.

Palos Verdes  
(Los Angeles  
County) During February 2,329 acres were covered by rodent control crews, 76 acres were planted to trees, gully tree planting was done on 53,000 square yards, and 12 permanent dams were constructed.

Vista  
(San Diego County) During February 30 permanent terrace structures were constructed, 200 acres covered by rodent control crews, 7 acres field tree planting, 18 man-days nursery, and general erosion control work.

Arroyo Grande  
(San Luis Obispo  
County) Over forty percent of the total project area is now under co-operative agreements. Thirty acres of cultivated land were retired to forest during February. During the same period 3 miles of terraces, 32 permanent terrace outlet structures, and 4,423 linear feet of terrace outlet channels were built. Increased acreage agreed to be put in to erosion-resisting crops: 500 acres to date.

Aliso Creek  
(Orange County) During February agreements to terrace or newly reterrace over 1,200 acres were made, and it was agreed to



retire 300 acres to forest. Thirty-seven permanent terrace outlet structures, 14 permanent dams, and 2,900 linear feet of diversion ditches were constructed in February. 175 man-days were expended in tree and shrub planting.

Panaca  
(Lincoln County,  
Nevada)

Three hundred sixty small permanent dams were built in February, 200,000 square yards of gully seeded and sodded, and two miles of lineal surveys made.

Bunkerville  
(Clark County,  
Nevada)

One hundred thirty-two permanent dams were built in February, over 24,000 square yards of gully seeded and sodded, and two miles of lineal surveys made.

CCC  
Third Anniversary

March 31 marks the third anniversary of the Civilian Conservation Corps. On April 10, 1933 the first quota of 25,000 men was called. By April 17, 1933 the first CCC camp was occupied near Iuray, Virginia. On May 12 enrollment was increased to 274,375. By July 2 all of the enrolled men were in forestry, park, and soil erosion camps.

On August 31, 1935 the CCC reached a peak strength of over one-half million men. Membership in the CCC is upon a voluntary basis.

Experienced conservation authorities agree that during the first 2 years of Emergency Conservation Work more was done to conserve and increase our natural resources than had been believed possible in 10 to 20 years.

Region 10, California-Nevada, of the Soil Conservation Service has 11 CCC camps doing soil erosion control work. Nine of the camps are in California. They are: Moorpark (Ventura County), Arroyo Grande (San Luis Obispo County), Sebastopol (Sonoma), Camp Chester (Solano), Pinto Lake (Santa Cruz), Lompoc (Santa Barbara), Vista (San Diego), El Toro (Orange), and Palos Verdes (Los Angeles). Two camps are in Nevada at Panaca (Lincoln County), and Bunkerville (Clark County).

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SOIL CONSERVATION ASSOCIATIONS

In addition to the Associations listed in previous monthly reports the following have been added:

El Toro SCA	El Toro Soil Conservation Association - (Orange County) Ben Osterman, President Raymond Prothero, Vice-President Harvey Bennett, Secretary Josephine Daguerro, Treasurer Ernest Behr, Director
Chandler Lake SCA	Chandler Lake Soil Conservation Association - (Santa Cruz County) E. R. Chandler Leroy Jarrett Carl McGee Mrs. Gardner, Secretary-Treasurer
Pleasant Valley SCA	Pleasant Valley Soil Conservation Association - (Santa Cruz County) C. C. Hammit, President Homer Day, Vice-President Walter E. Vass, Secretary-Treasurer Bert Hitchings Jack Pinneo
Larkin Valley SCA	Larkin Valley Soil Conservation Association - (Santa Cruz County) L. O. Gorham, President James T. Beck, Vice-President Geo. Flath, Secretary-Treasurer Ed Skov Max Payer
Tri-County SCA	Tri-County Soil Conservation Association - (Monterey County) <u>Directors:</u> J. Rowe J. Bryan N. Crouch W. Eipper
San Benito SCA	San Benito County Soil Conservation Association - (San Benito County) Frank Parker, President R. C. Centmayer, Vice-President Bryan Jensen, Secretary-Treasurer Ben P. Rice L. E. Ladd